In the Claims:

1. (currently amended) Contactless data transmission system with an ~~encoding~~ encryption algorithm (A64) [[with]] in which [[the]] input data (R_{64}, R_{32}), which are ~~processed~~ encrypted with the ~~encoding~~ encryption algorithm (A64), are linked with a secret code (CODE) that determines the ~~encoding~~ encryption algorithm (A64), wherein the data transmission system further has a facility (12, S64/S32) for setting the encryption algorithm to different ~~formats~~ input word lengths of the input data ~~(R_{64}, R_{32}), for the encoding algorithm (A64).~~ (R_{64}, R_{32}).

2. (currently amended) Contactless data transmission system in accordance with Patent Claim 1, wherein the facility ~~for setting to different formats of the input data (R_{64}, R_{32})~~ is a control line (S64/S32).

3. (currently amended) Contactless data transmission system in accordance with Patent Claim 1, wherein the facility ~~for setting to different formats of the input data (R_{64}, R_{32})~~ is a switch (12).

4. (currently amended) Method for operating a contactless data transmission system in accordance with Patent Claim 1, ~~wherein~~ comprising using the same ~~encoding~~ encryption algorithm (A64) ~~is used for the various formats~~ respectively for various different input word lengths of

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6   the input data ~~(R₆₄, R₃₂)~~ (R_{64}, R_{32}) by respectively adjusting

7   the facility for setting the algorithm respectively to the

8   various different input word lengths.

Claims 5 and 6 (canceled).

1   **7.**   (currently amended) Method for <u>operating</u> a contactless

2   data transmission system in accordance with Patent Claim 1,

3   ~~wherein~~ <u>comprising using</u> the same secret code (CODE)

4   ~~is used for the various formats~~ <u>respectively for various</u>

5   <u>different input word lengths</u> of the input data (R_{64}, R_{32}).

Claims 8 and 9 (canceled).

1   **10.**   (currently amended) Method for <u>operating</u> a contactless

2   data transmission system in accordance with Patent Claim 4,

3   ~~wherein~~ <u>comprising using</u> the same secret code (CODE)

4   ~~is used for the various formats~~ <u>respectively for the</u>

5   <u>various different input word lengths</u> of the input data

6   (R_{64}, R_{32}).

1   **11.**   (new) A data transmission system adapted to carry out a

2   contactless encrypted data transmission, comprising a first

3   device and a second device that each include a wireless

4   transmitting and receiving unit and that are adapted to

5   communicate with each other via said transmitting and

6   receiving units, wherein at least one of said devices

7   further includes an encryption unit that comprises a data

8   input adapted to receive plural different input data

9   respectively having different input data word lengths, a

10   code input adapted to receive a secret code, an encryption

11   algorithm unit that is connected to said data input so as

12   to receive said input data and connected to said code input

13   so as to receive said secret code and that comprises an

14   encryption algorithm adapted to selectively process any one

15   of said different input data having said different input

16   data word lengths so as to encrypt said input data in

17   accordance with said secret code, a control input adapted

18   to receive a control signal, and a control unit connected

19   to said control input and adapted to control said algorithm

20   unit so as to selectively process a selected one of said

21   different input data word lengths of said input data

22   responsive to said control signal.

1   **12.** (new) The data transmission system according to claim 11,

2   wherein said one of said devices further comprises a switch

3   adapted to switch between said different input data having

4   said different input data word lengths.

1   **13.** (new) The data transmission system according to claim 11,

2   wherein said one of said devices further comprises an

3   externally programmable control line connected to and

4   adapted to provide said control signal to said control

5   input.

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1   **14.**   (new) The data transmission system according to claim 11,
2   wherein said one of said devices is adapted to encrypt said
3   input data including first data having said input data word
4   length being a 64 bit word length and second data having
5   said input data word length being a 32 bit word length.

1   **15.**   (new) The data transmission system according to claim 11,
2   wherein:
3   said   encryption   algorithm   includes   a   first
4   sub-algorithm and a second sub-algorithm,
5   said different input data word lengths include a
6   relatively longer word length and a relatively shorter word
7   length, and
8   said encryption algorithm is adapted selectively to
9   process an entirety of said input data having said shorter
10   word length in only said first sub-algorithm, and
11   selectively to process a first portion of said input data
12   having said longer word length in said first sub-algorithm
13   and a second portion of said input data having said longer
14   word length in said second sub-algorithm.

1   **16.**   (new) The data transmission system according to claim 11,
2   wherein said encryption unit further includes a data output
3   adapted to selectively output an encrypted result
4   selectively having different output word lengths
5   respectively dependent on said different input data word
6   lengths.

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1   17.   (new) The data transmission system according to claim 11,

2   wherein said encryption algorithm includes an

3   encryption function adapted to receive as a function input

4   said input data or a permutation thereof having said input

5   data word length being either a relatively longer word

6   length or a relatively shorter word length and is adapted

7   to produce as an output a functional result always having

8   a specified consistent result word length regardless of

9   said input data word length, and

10   wherein said encryption function is adapted to assign

11   respective 4-bit first values to successive even-numbered

12   nibbles of said function input, to assign respective 4-bit

13   second values to successive odd-numbered nibbles of said

14   function input, to logically combine said first values to

15   produce a 4-bit first result, to logically combine said

16   second values to produce a 4-bit second result, and to

17   output said first result and said second result together

18   forming said functional result.

1   18.   (new) A method of contactless encrypted data transmission

2   comprising the steps:

3   a)   providing an encryption device including an encryption

4   algorithm that is adapted to selectively encrypt any

5   one of plural different input data respectively having

6   different input data word lengths;

7   b)   providing a secret code;

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8   c)   providing first input data having a first input data
9   word length among said different input data word
10   lengths;
11   d)   setting said encryption device to said first input
12   data word length;
13   e)   after said step d), using said encryption algorithm,
14   encrypting said first input data in accordance with
15   said secret code to produce encrypted first output
16   data; and
17   f)   transmitting said encrypted first output data.

1   **19.**   (new) The method according to claim 18, further comprising
2   the steps:
3   g)   providing second input data having a second input data
4   word length among said different input data word
5   lengths, wherein said second input data word length is
6   different from said first input data word length;
7   h)   setting said encryption device to said second input
8   data word length;
9   i)   after said step h), using said encryption algorithm
10   that is also used in said step e), encrypting said
11   second input data to produce encrypted second output
12   data; and
13   j)   transmitting said encrypted second output data.

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1   20.   (new) The method according to claim 19, wherein said
2   encrypting of said second input data in said step i) is
3   carried out in accordance with said secret code that is
4   also used in said step e).

1   21.   (new) The method according to claim 19, wherein said first
2   input data word length is a 64 bit word length and said
3   second input data word length is a 32 bit word length.

1   22.   (new) The method according to claim 19, wherein:
2   said first input data word length is longer than said
3   second input data word length;
4   said   encryption   algorithm   includes   a   first
5   sub-algorithm and a second sub-algorithm;
6   said step e) comprises processing a first portion of
7   said first input data in said first sub-algorithm and a
8   second portion of said first input data in said second
9   sub-algorithm; and
10   said step i) comprises processing an entirety of said
11   second input data in only said first sub-algorithm.

1   23.   (new) The method according to claim 19, wherein said first
2   and second output data respectively have different output
3   data word lengths dependent on said first and second input
4   data word lengths.

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24. (new) The method according to claim 18, wherein said encryption algorithm includes an encryption function, and said encrypting in said step e) comprises processing said first input data or a permutation thereof as a function input according to said encryption function to produce a functional result always having a specified consistent result word length regardless of said input data word length, and combining said functional result or a further processed derivative thereof with said first input data or said permutation thereof to produce said encrypted first output data or an intermediate result.

25. (new) The method according to claim 24, wherein said processing of said function input according to said encryption function comprises assigning respective 4-bit first values to successive even-numbered nibbles of said function input, assigning respective 4-bit second values to successive odd-numbered nibbles of said function input, logically combining said first values to produce a 4-bit first result, logically combining said second values to produce a 4-bit second result, and outputting said first result and said second result together forming said functional result having an 8-bit word length.

[RESPONSE CONTINUES ON NEXT PAGE]

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